Patent claims

1. A method for contactless data transmission which has the following method steps:

- a transponder having the following features is provided:
a reception unit (EMP) for receiving a modulated RF signal, a signal processing unit (SVE) which is connected downstream of the reception unit and has means (SR1, SR2, DEM1, DEM2) for processing at least two differently modulated and/or coded RF signals, for providing a supply voltage (Uv) and for providing a data signal (DS, DS1, DS2) produced from the modulated RF signal, and a data processing unit (DVE) which can be connected to the supply voltage (Uv) and to which the data signal (DS, DS1, DS2) can be supplied, and which is connected to the signal processing unit (SVE) for setting the modulation type and/or coding type for the RF signals to be processed;
- the signal processing unit (SVE) is set to process differently modulated and/or coded RF signals in chronological order, starting from application of a supply voltage (Uv) until the data processing unit (DVE) identifies reception of a prescribed data signal.

2. The method as claimed in claim 1,
characterized in that
the signal processing unit (SVE) can be set to the process ASK10% modulated signals and ASK100% modulated signals.

3. The method as claimed in claim 2,
characterized in that,
when a supply voltage (Uv) is applied to the data processing unit (DVE), the signal processing unit (SVE) is first set to the process ASK100% modulated signals.

4. The method as claimed in one of the preceding claims,
characterized in that
the prescribed data signal is a Request signal transmitted by a read/write unit at predetermined time intervals.

5. The method as claimed in one of the preceding claims,
characterized in that
the signal processing unit (SVE) is set to a modulation and/or coding type for respective prescribed time periods until the prescribed signal is detected, this time period being longer than the time interval between two Request signals.

6. The method as claimed in one of the preceding claims,
characterized in that,
when a supply voltage (Uv) is applied to the data processing unit (DVE), a counter begins to run from a defined start count, and in that the signal processing unit (SVE) is set to another modulation type and/or coding type if the prescribed signal has not been identified when an end count is reached.

7. The method as claimed in one of the preceding claims,
characterized in that
the signal processing unit (SVE) is cyclically set to different modulation types and/or coding types.

8. The method as claimed in one of the preceding claims,
characterized in that
the modulation type and/or coding type are/is set by controlling demodulation and decoding units (DEM1,

DEM2) and voltage regulators (SR1, SR2) in the signal processing unit (SVE).

9. The method as claimed in one of the preceding claims,
characterized in that
the method runs under the control of a piece of software stored in the data processing unit (DVE).

10. A transponder for a contactless inductive data transmission system, having the following features:
- a reception unit (EMP) for receiving a modulated RF signal;
- a signal processing unit (SVE) which is connected downstream of the reception unit (EMP) and has a first output terminal pair (AK3, AK4) for providing a supply voltage (Uv) and has at least one second output terminal (AK5) for providing a data signal (DS, DS1, DS2) obtained from the modulated RF signal, the signal processing unit (SVE) having means (DEM1, DEM2, SR1, SR2) for processing at least two differently modulated and/or coded RF signals;
- a data processing unit (DVE) which is connected to the output terminal pair (AK3, AK4) of the signal processing unit (SVE) and to which the data signal (DS, DS1, DS2) can be supplied, and having at least one first output terminal (AK6, AK61, AK62, AK71, AK72) which is connected to the signal processing unit (SVE) for setting the modulation type and/or coding type for the signals to be processed.

11. The transponder as claimed in claim 10,
characterized in that
the data processing unit (DVE) has a counter, and in that the signal processing unit (SVE) can be controlled on the basis of the count.

12. The transponder as claimed in claim 10 or 11,

characterized in that
the signal processing unit (SVE) can be controlled on the basis of detection of a prescribed data signal in the data processing unit (DVE).

13. The transponder as claimed in claim 12,
characterized in that
the prescribed data signal (DS) is a Request signal transmitted by a transmission unit for the purpose of commencing communication with the transponder.

14. The transponder as claimed in one of the preceding claims,
characterized in that
the receiver has an input resonant circuit (L, C) and a rectifier (GL).

15. The transponder as claimed in one of the preceding claims,
characterized in that
the signal processing unit (SVE) has a first and a second voltage regulator (SR1, SR2) for providing the supply voltage (Uv), and a first and a second demodulation and decoding unit (DEM1, DEM2) for providing the data signal (DS1, DS2).

16. The transponder as claimed in one of the preceding claims,
characterized in that
the first voltage regulator (SR1) is designed for processing modulated energy signals having a first degree of modulation, and
in that the second voltage regulator (SR2) is designed for processing modulated energy signals having a second degree of modulation.

17. The transponder as claimed in one of the preceding claims,

characterized in that
the first demodulation and decoding unit (DEM1) is designed for processing modulated energy signals having a first degree of modulation, and in that the second demodulation and decoding unit (DEM2) is designed for processing modulated energy signals having a second degree of modulation.

18. The transponder as claimed in claim 16 or 17, characterized in that
the modulation of the energy signals is ASK modulation, and the first degree of modulation is 100% and the second degree of modulation is less than 100%, preferably between 5% and 15%.

19. The transponder as claimed in one of the preceding claims,
characterized in that
the first and second demodulation and decoding units (DEM1, DEM2) can be controlled, preferably connected and disconnected, via output terminals (AK71, AK72) of the data processing unit (DVE).

20. The transponder as claimed in one of the preceding claims,
characterized in that
the data processing unit has a microprocessor with a memory in which a program is stored.

21. The transponder as claimed in claim 20,
characterized in that
the memory is a ROM or EEPROM.